

What Is Claimed Is:

1. A method of regulating the mucosal immune function in humans or animals in the treatment, prevention and alleviation of a disease, which comprises:

administering an effective amount of trehalose to oral pathway, whereby allowing said trehalose to bind on a gastric mucosa and regulating the production of IFN- γ and IgA.

2. A method of regulating the production of IFN- γ in humans or animals by administering an effective amount of trehalose to oral pathway.

3. A method of regulating the production of IgA in Humans or animals by administering an effective amount of trehalose to oral pathway.

4. The method of claim 1, wherein said disease is an oral infectious disease.

5. The method of claim 1, for the treatment of a disease, wherein said human or other animal is suffering from hepatitis A virus, rotavirus, cholera, dysentery, typhoid, salmonella, campylobacter, *Pseudomonas pseudomallei*, *Vibrio parahaemolyticus*, *Brucella*, broad tapeworm, Yokokawa fluke, oriental liver fluke, echinostoma, lung fluke, anisakis, gnathostoma, *Angiostrongylus cantonensis*, *Entamoeba*

histolytica, *Cryptosporidium*; malaria, microfilaria, or effects of a food allergy.

6. The method of claim 5, wherein said administering is to a human orally.

7. The method of claim 1, wherein said administering is in the form of an animal feed or pet food to a non-human animal.